

Amendments to the Claims:

The following lists all claims and their status:

1-4280. (cancelled)

4281. (currently amended): A mixture produced from ~~a portion of~~ a coal formation, comprising:

condensable hydrocarbons, wherein less than about 15 weight % of the condensable hydrocarbons have a carbon number greater than 25; and

wherein the condensable hydrocarbons comprise oxygenated hydrocarbons, and wherein greater than about 5 % by weight of the condensable hydrocarbons ~~comprises~~ comprise oxygenated hydrocarbons.

4282. (currently amended): The mixture of claim 4281, further comprising non-condensable hydrocarbons, wherein the non-condensable hydrocarbons comprise hydrocarbons having carbon numbers of less than 5, and wherein a weight ratio of hydrocarbons having carbon numbers from 2 through 4, ~~to methane,~~ to methane is greater than approximately 1.

4283. (original): The mixture of claim 4281, wherein the condensable hydrocarbons further comprise olefins, and wherein about 0.1 % by weight to about 15 % by weight of the condensable hydrocarbons are olefins.

4284. (original): The mixture of claim 4281, further comprising non-condensable hydrocarbons, wherein a molar ratio of ethene to ethane in the non-condensable hydrocarbons ranges from about 0.001 to about 0.15.

4285. (currently amended): The mixture of claim 4281, wherein the condensable hydrocarbons ~~further~~ comprise nitrogen containing compounds, and wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is nitrogen.

4286. (currently amended): The mixture of claim 4281, wherein the condensable hydrocarbons ~~further~~ comprise oxygen containing compounds, and wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is oxygen.

4287. (currently amended): The mixture of claim 4281, wherein the condensable hydrocarbons ~~further~~ comprise sulfur containing compounds, and wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is sulfur.

4288. (currently amended): The mixture of claim 4281, ~~wherein the condensable hydrocarbons further comprise oxygen containing compounds, wherein about 5 % by weight to about 30 % by weight of the condensable hydrocarbons comprise oxygen containing compounds, and wherein~~ the oxygen containing compounds comprise phenols.

4289. (currently amended): The mixture of claim 4281, wherein the condensable hydrocarbons ~~further~~ comprise aromatic compounds, and wherein greater than about 20 % by weight of the condensable hydrocarbons are aromatic compounds.

4290. (currently amended): The mixture of claim 4281, wherein the condensable hydrocarbons ~~further~~ comprise multi-ring aromatics, and wherein less than about 5 % by weight of the condensable hydrocarbons comprises multi-ring aromatics with more than two rings.

4291. (currently amended): The mixture of claim 4281, wherein the condensable hydrocarbons ~~further~~ comprise asphaltenes, and wherein less than about 0.3 % by weight of the condensable hydrocarbons are asphaltenes.

4292. (currently amended): The mixture of claim 4281, wherein the condensable hydrocarbons ~~further~~ comprise cycloalkanes, and wherein about 5 % by weight to about 30 % by weight of the condensable hydrocarbons are cycloalkanes.

4293. (currently amended): The mixture of claim 4281, further comprising a non-condensable hydrocarbons component, wherein the non-condensable ~~hydrocarbons comprise component~~ comprises hydrogen (H_2), ~~and~~ wherein the hydrogen is greater than about 10 % by volume at 25 °C and one atmosphere absolute pressure of the non-condensable hydrocarbons component, and wherein the hydrogen is less than about 80 % by volume at 25 °C and one atmosphere absolute pressure of the non-condensable hydrocarbons component.

4294. (original): The mixture of claim 4281, further comprising ammonia, and wherein greater than about 0.05 % by weight of the produced mixture is ammonia.

4295. (original): The mixture of claim 4281, further comprising ammonia, and wherein the ammonia is used to produce fertilizer.

4296. (currently amended): The mixture of claim 4281, wherein the condensable hydrocarbons ~~further comprises~~ comprise olefins, and wherein less than about 10 % by weight of the condensable hydrocarbons comprises olefins.

4297. (currently amended): The mixture of claim 4281, wherein the condensable hydrocarbons ~~further comprises~~ comprise olefins, and wherein about 0.1 % to about 5 % by weight of the condensable hydrocarbons comprises olefins.

4298. (currently amended): The mixture of claim 4281, wherein the condensable hydrocarbons ~~further comprises~~ comprise olefins, and wherein about 0.1 % to about 2 % by weight of the condensable hydrocarbons comprises olefins.

4299. (currently amended): The mixture of claim 4281, ~~wherein the condensable hydrocarbons further comprises oxygenated hydrocarbons, and~~ wherein greater than about 5 % by weight of the oxygenated condensable hydrocarbons comprise phenol ~~se comprises the oxygenated hydrocarbon~~.

4300. (currently amended): The mixture of claim 4281, further comprising a non-condensable component~~hydrocarbons~~, wherein the non-condensable ~~hydrocarbons~~ comprise component comprises H₂, and wherein greater than about 5 % by weight of the non-condensable component ~~hydrocarbons~~ comprises H₂.

4301. (currently amended): The mixture of claim 4281, further comprising a non-condensable ~~hydrocarbons~~ component, wherein the non-condensable ~~hydrocarbons~~ component comprise comprises H₂, and wherein greater than about 15 % by weight of the non-condensable ~~hydrocarbons~~ component comprises H₂.

4302. (currently amended): The mixture of claim 4281, wherein a weight ratio of hydrocarbons having greater than about 2 carbon atoms, ~~to methane~~, to methane is greater than about 0.3.

4303-5149. (cancelled)

5150. (new): A mixture produced from a coal formation, comprising:
condensable hydrocarbons, wherein less than about 15 weight % of the condensable hydrocarbons have a carbon number greater than 25;
wherein greater than about 5 % by weight of the condensable hydrocarbons comprise oxygen containing hydrocarbons; and
a non-condensable component.

5151. (new): The mixture of claim 5150, wherein the condensable hydrocarbons comprise olefins, and wherein about 0.1 % by weight to about 15 % by weight of the condensable hydrocarbons are olefins.

5152. (new): The mixture of claim 5150, wherein the oxygen containing hydrocarbons comprise phenols.

5153. (new): The mixture of claim 5150, wherein the condensable hydrocarbons comprise aromatic compounds, and wherein greater than about 20 % by weight of the condensable hydrocarbons are aromatic compounds.

5154. (new): The mixture of claim 5150, wherein the condensable hydrocarbons comprise multi-ring aromatics, and wherein less than about 5 % by weight of the condensable hydrocarbons comprises multi-ring aromatics with more than two rings.

5155. (new): A mixture produced from a coal formation, comprising:
condensable hydrocarbons, wherein less than about 15 weight % of the condensable hydrocarbons have a carbon number greater than 25;
wherein greater than about 5 % by weight of the condensable hydrocarbons comprise oxygen containing hydrocarbons, and wherein greater than about 5 % by weight of the oxygen containing hydrocarbons comprise phenols; and
a non-condensable component.

5156. (new): The mixture of claim 5155, wherein the condensable hydrocarbons comprise nitrogen containing compounds, and wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is nitrogen.

5157. (new): The mixture of claim 5155, wherein the condensable hydrocarbons comprise sulfur containing compounds, and wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is sulfur.

5158. (new): The mixture of claim 5155, wherein less than about 15 weight % of the condensable hydrocarbons have a carbon number greater than 25.

5159. (new): The mixture of claim 5155, further comprising ammonia, and wherein greater than about 0.05 % by weight of the mixture is ammonia.